

## REMARKS

Claims in the case are 1, 3-8 and 10-15 upon entry of this amendment.

Claims 1, 10, 11 and 12 have been amended, Claims 2 and 9 have been cancelled, and no claims have been added herein.

Claim 1 has been amended to include the subject matter of Claims 2 and 9. Accordingly, Claims 2 and 9 have been cancelled herein. In light of the cancellation of Claim 9, Claims 10, 11 and 12 have been amended to change their dependency from Claim 9 to Claim 1.

Claims 1-3 and 5-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 4,973,102 (**Bien**) in view of United States Patent No. 3,458,618 (**Burns et al**). This rejection is respectfully traversed in light of the following remarks.

Bien discloses a fastening arrangement for plastic to metal parts which includes attaching a plastic panel and metal mounting strip sub-assembly to an automotive body metal sub-structure. The attachment arrangement of Bien includes the following essential components:

- (i) a plastic panel (e.g., plastic fender 14) having circular perforations (e.g., 20);
- (ii) an automotive body metal sub-structure (e.g., metal frame members 38 and 36) connected to a metal mounting strip (e.g., metal angle 16) having elongated perforations (e.g., 24), which are aligned with the circular perforations of the plastic panel;
- (iii) a **metal** spacing washer (e.g., 40);
- (iv) a hollow **metal** rivet having a rivet body (e.g., 72) and a rivet heat (e.g., 74, see Figure 10) that extends through the aligned holes of the plastic panel and metal mounting strip (see Figure 4); and
- (v) a **metal** blind break-stem rivet that is inserted through and resides within the hollow metal rivet and metal spacing washer (e.g., see Figure 12). See also the abstract of Bien.

Bien's fastening arrangement is separate and distinct from each of the plastic panel, the metal mounting strip and the automotive body metal sub-structure. In particular, the fastening arrangement of Bien is separate from and is not continuous

(or integral) with the plastic panel. In Figures 4 and 12, for example: the metal rivet, which includes, metal rivet head (74), metal rivet body (72), integral metal shank (76) and tolerance compensating ring (80) (see also Figure 10); metal spacing washer 40; and metal blind break-stem rivet 70 are each separate from and are not continuous with plastic fender (14).

In summary, Bien discloses fastening a plastic panel to a metal mounting strip / metal sub-structure by means of the combination of a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Bien does not disclose, teach or suggest a fastening arrangement that is formed from plastic. In addition, Bien does not disclose, teach or suggest a fastening arrangement (plastic or otherwise) that is continuous/integral with the plastic panel.

Burns et al disclose a method of fastening a thermoplastic sheet to one or more other members by means of hollow plastic rivets that are integral with the plastic sheet (abstract). The plastic rivets of Burns et al are formed by a plunger that drives the plastic of a thermoplastic upper plastic member through an opening in a lower member and into a circular channel in a base plate (column 3, lines 14-28). The plastic rivets formed in accordance with the disclosure of Burns et al necessarily have a channel (e.g., opening 21 of Figure 5) passing through the center thereof.

Burns et al provide no disclosure or suggestion as to joining a thermoplastic sheet to one or other members by means of a metal rivet, or a combination of metal components, such as a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Burns et al provide no disclosure or suggestion with regard to the annular openings (e.g., 13 and 18, Figure 1) in the lower member (e.g., 11, Figure 1) being in the form of an elongated perforation.

The fastening arrangement of Bien is disclosed as necessarily including a combination of metal components which includes a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Bien does not disclose or suggest a fastening arrangement that is integral with the plastic panel that is fastened to the metal substructure. Bien does not disclose, teach or suggest a fastening arrangement that is formed from a single

component, or a single plastic component, such as a plastic rivet. The fastening arrangement of Bien also necessarily includes elongated perforations in the metal substructure (that are aligned with circular perforations in the plastic panel).

Burns et al disclose fastening an upper thermoplastic member to a lower member by means of a hollow thermoplastic rivet that is integral with the upper thermoplastic panel, and which passes through a circular opening in the lower member.

Burns et al do not disclose, teach or suggest joining a thermoplastic sheet to one or other members by means of a metal rivet, or a combination of metal components, such as a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Burns et al do not disclose or suggest the presence of an elongated perforation in the lower member.

In light of their disparate disclosures, neither Bien nor Burns et al provide the requisite disclosure, teaching or suggestion that would motivate a skilled artisan to combine or otherwise modify their respective disclosures. As the Court of Appeals for the Federal Circuit has stated, there are three possible sources for motivation to combine references in a manner that would render claims obvious. These are (1) the nature of the problem to be solved, (2) the teaching of the prior art, and (3) the knowledge of persons of ordinary skill in the art, *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The nature of the problem to be solved and the knowledge of persons of ordinary skill in the art are not present here and have not been relied upon in the rejection. As for the teaching of the prior art, the above discussion has established that neither of the patents relied upon in the rejection provide the requisite teaching, and certainly do not provide the motivation or suggestion to combine that is required by Court decisions.

Even if Bien and Burns et al were combined, Applicants' claimed composite structural article would not result from such combination. Such a combination would not result in reversible frictional movement between an upper member and a lower member along the x or y direction along the plain of each member.

In forming their hollow plastic rivet Burns et al describe the plunger (e.g., 22) as necessarily having a diameter that is somewhat smaller than the diameter of the preformed annular opening (e.g., 18) in the lower member (e.g., 11). See column 3, lines 17-20 of Burns et al. In addition, Burns et al disclose the preformed annular

opening in the lower member must be: (i) somewhat larger than the diameter of the plunger; and (ii) somewhat smaller than the diameter of the uppermost edge (e.g., 17) of the annular base plate cavity (column 3, lines 29-35). As such, the resulting hollow plastic rivet of Burns et al must necessarily substantially fill the preformed opening in the lower member. For example, with reference to Figures 4 and 6, the hollow plastic rivet is depicted as abutting the walls of the preformed opening in the lower member. For purposes of argument, if the preformed opening in the lower member of Burns et al was an elongated opening, the plunger would have to also be elongated, and accordingly the resulting hollow plastic rivet would be elongated and would substantially fill the elongated hold in the lower member. Therefore, Burns et al do not disclose, teach or suggest that their hollow plastic rivet could provide reversible frictional movement between an upper and lower member along the x or y direction along the plain of each member. As such, even if Bien were modified with Burns et al, for example, to include a hollow plastic rivet in Bien's elongated hole (24c), there would be no reversible frictional movement between upper and lower members along the x or y direction along the plain of each member, because the hollow plastic rivet would substantially fill the elongated hole (e.g., elongated hole 24c).

The rejection appears to impermissibly use Applicants' application as a blueprint for selecting and combining or modifying the prior art to arrive at Applicants' claimed invention, thereby making use of prohibited hindsight in the selection and application of that prior art. The use of hindsight reconstruction of an invention is an inappropriate process by which to determine patentability, *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). See also, *In re Fritch*, 972 F.2d 1260 (Fed. Cir. 1992). "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Modifying "prior art references without evidence of such a

suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999).

On page 4 of the Office Action of March 1, 2004, it is argued that the limitations of Claims 9 and 10 (as to forming Applicants' composite structural article by injection molding of thermoplastic material onto at least a portion of the surface of core body (a), the injected thermoplastic material extending through at least some of the perforations in the core body thereby forming the joining elements) is indistinguishable from the plastic rivets of Burns et al. Applicants respectfully disagree. The hollow plastic rivets of Burns et al are formed by a plunger that drives the plastic of a thermoplastic upper plastic member through an opening in a lower member and into a circular channel in a base plate. As such, the hollow plastic rivets of Burns et al have a substantial degree of internal stress, and the polymer molecules thereof are substantially uniaxially oriented, as would be recognized by a skilled artisan. In fact, Burns et al admit that their plastic rivets are uniaxially oriented.

"... the plunger forms a **uniaxially oriented** connecting sleeve 19 between the rivet lock 20 and the upper plastic member 10."

See column 3, lines 58-60, and Figure 3 of Burns et al. (emphasis added).

In contrast, the joining elements of Applicants' claims, when formed by injection molding, have a minimal degree of internal stress and a minimal degree of uniaxial orientation, as would be recognized by a skilled artisan. The injected thermoplastic material is molten and flows through the perforations in the core body (a), followed by cooling and solidification which results in the formation of joining elements that are continuous with plastic part (b), and which have a minimum degree of internal stress and a minimal degree of uniaxial orientation. As such, the hollow plastic rivets of Burns et al are substantially differentiated from and are physically dissimilar relative to the thermoplastic joining elements of Applicants' Claims 9 and 10. Applicants wish to point out that the subject matter of Claim 9 has been incorporated into Claim 1 by amendment herein.

On page 4 of the Office Action of March 1, 2004, it is argued that one of ordinary skill in the art would somehow modify the fastening arrangement of Bien (which is composed of (i) a separate plastic panel, (ii) a separate metal washer, (iii) a **separate hollow metal rivet**, and (iii) a **separate metal blind-stem rivet**) with the **integral hollow plastic rivets** of Burns et al. Applicants respectfully disagree. As discussed previously herein, but for the impermissible use of hindsight reconstruction and in light of their disparate disclosures, neither Bien nor Burns et al provide the requisite disclosure, teaching or suggestion that would motivate a skilled artisan to combine or otherwise modify their respective disclosures. Modifying "prior art references without evidence of such a suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999).

Applicants respectfully disagree with the comments on page 4 of the Office Action of March 1, 2004 regarding Claim 15. Applicants submit that a hollow plastic rivet is not structurally equivalent to a solid plastic rivet. Hollow plastic rivets suffer from an increased risk and incidence of catastrophic failure (e.g., snapping and/or shear separation of the hollow plastic rivet) relative to solid plastic rivets. In addition, the increased risk and incidence of catastrophic failure of hollow plastic rivets is further exacerbated by the uniaxial orientation and the internal stress associated therewith, in particular when they are formed in accordance with the method described by Burns et al, and as discussed previously herein. As such, a plastic hollow rivet, e.g., as described by Burns et al, is not structurally equivalent to a solid plastic rivet.

On page 6 of the Office Action it is suggested that Applicants' are arguing the references individually relative to the obviousness rejections. Applicants respectfully disagree, and submit that the Examiner has mischaracterized or misunderstood their arguments. The references cited in the present obviousness rejection are each discussed separately, for purposes of highlighting the essential disparate elements of each reference. These essential and disparate elements are then contrasted one against the other for purposes of arguing: (i) against any reasonable motivation to combine the reference; and (ii) that the combination of the references does not

result in Applicants' presently claimed composite structural article in the absence of the impermissible use of hindsight reconstruction. In addition, as appropriate, the references are discussed individually to counter specific assertions made by the Examiner relative thereto.

On page 6 of the Office Action it is argued relative to a motivation for combining Bien and Burns et al, "[e]ven though the methods used by the prior art are different, they are solving the same problem with the use of different types of rivets." Applicants respectfully counter that this does not represent sufficient motivation to combine or otherwise modify the disclosures of Bien and Burns et al. Bien does not disclose, teach or suggest using anything other than his complicated **metal** fastening arrangement that is separate from the sheets that it joins together, and which includes the combination of a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Bien provides no disclosure, teaching or suggestion as to the use of a fastening arrangement that makes use of a plastic rivet, let alone a hollow plastic rivet that is continuous with a plastic sheet. Burns et al do not disclose, teach or suggest using anything other than their hollow **plastic** rivets that are integral with the plastic sheet that is attached to another member. Burns et al do not disclose, teach or suggest using a multi-component metal fastening arrangement that is separate from both of the sheets that are attached. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious *unless the prior art suggested the desirability of the modification.*" *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (emphasis added). Modifying "prior art references without evidence of such a suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." *In re Dembiczaik*, 175 F.3d 994, 999 (Fed. Cir. 1999).

It is respectfully submitted that the statements on page 6 of the Office Action appear to represent an argument in support of obvious-to-try rather than obviousness. Obvious-to-try is not a legitimate test of patentability. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988).

In light of the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Bien in view of Burns et al. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Bien in view of Burns et al, as applied to Claims 1-3 and 5-15, and further in view of United States Patent No. 6,547,317 B1 (**Cheron et al**). In light of the following remarks, this rejection is respectfully traversed.

In Applicants' Claim 4, plastics part (b) is described as forming a rib structure having a plurality of intersecting ribs, wherein the joining elements are located at the intersections of the ribs.

Cheron et al disclose a motor vehicle structural component that includes: a functional part of molded plastic, and a structural part that includes two rigid assemblies - an array of stiffening ribs and metal reinforcements (abstract). The functional part and one of the rigid assemblies (e.g., the metal reinforcements) are formed as one part by over-molding of plastic onto the rigid assembly (abstract). The other rigid assembly (e.g., the array of stiffening ribs) is attached to the plastic over-molded rigid assembly by means of snap-fasteners (abstract, and Figure 11). The plastic snap-fasteners of Cheron et al are an essential element of their motor vehicle structural component.

Bien and Burns et al have each been discussed previously herein. Bien discloses fastening a plastic panel to a metal mounting strip / metal sub-structure by means of the combination of a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Burns et al disclose fastening an upper thermoplastic member to a lower member by means of a hollow thermoplastic rivet that is integral with the upper thermoplastic panel, and which passes through a circular opening in the lower member.

As discussed previously herein, neither Bien nor Burns et al provide the requisite disclosure that would motivate a skilled artisan to combine or otherwise modify their disclosures. In particular: the fastening arrangement of Bien is disclosed as necessarily including a combination of metal components which includes a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer; while Burns et al disclose fastening

an upper thermoplastic member to a lower member by means of a hollow thermoplastic rivet that is integral with the upper thermoplastic panel, and which passes through a circular opening in the lower member. Bien does not disclose, teach or suggest a fastening arrangement that is formed from a single component, or a single plastic component, such as a hollow plastic rivet that is continuous / integral with the plastic sheet. Burns et al do not disclose, teach or suggest joining a thermoplastic sheet to one or other members by means of a metal rivet, or a combination of metal components, such as a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer.

Neither of Bien nor Burns et al disclose the use of plastic snap-fittings in their structural articles. Plastic snap-fasteners are an essential element of the motor vehicle structural component of Cheron et al. As such, Bien, Burns et al and Cheron et al do not provide the requisite disclosure that would motivate a skilled artisan to combine or otherwise modify their disclosures. See *In re Rouffet, supra*.

The present rejection impermissibly uses Applicants' application as a blueprint for selecting and combining or modifying the prior art to arrive at Applicants' claimed invention, thereby making use of prohibited hindsight in the selection and application of that prior art. Modifying "prior art references without evidence of such a suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999).

Even if Bien, Burns et al and Cheron et al were combined, Applicants' composite structural article would not result there-from. Applicants' claimed composite structural article does not include plastic snap-fasteners. See Claim 1 and the drawing Figures. The core body and the plastics part of Applicants' claimed composite structural article are joined together by an interlocking engagement (i.e., a fixed / irreversible engagement) of the joining element there-between (Claim 1). Snap fittings represent a reversible interlocking engagement.

In light of the preceding remarks, Applicants' claims are deemed to be patentable and unobvious over Bien in view of Burns et al, and further in view of Cheron et al. Reconsideration and withdrawal of this rejection is respectfully requested.

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to define an invention that is unanticipated, unobvious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

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